United States Environmental Protection Agency | Solid Waste And Emergency Response 5401G | EPA 510-B-00-008 August 2000 www.epa.gov

EPA

Operating And Maintaining Underground Storage Tank Systems

Practical Help And Checklists

Printed on Recycled Paper

Contents

DISCLAIMER

This document provides information on operating and maintaining underground storage tank (UST) systems. The document is not a substitute for U.S. Environmental Protection Agency regulations nor is it a regulation itself — it does not impose legally binding requirements.

For regulatory requirements regarding UST systems, refer to the Federal regulations governing UST systems (40 CFR Part 280).

How To Use This Booklet

Who should read this booklet?

This booklet is for owners and operators of underground storage tank systems (USTs).

You are responsible for making sure your USTs do not leak. This booklet can help you meet your UST responsibilities.

Key Terms Used In This Booklet

An **UST** is an **underground storage tank and underground piping connected to the tank** that has at least 10 percent of its combined volume underground. The federal regulations apply only to USTs storing petroleum or certain hazardous substances.

O&M stands for **operation and maintenance procedures** that must be followed to keep USTs from causing leaks and creating costly cleanups.

What can this booklet help you do?

- Identify and understand the operation and maintenance (O&M) procedures you need to follow routinely to make sure your USTs don't have leaks that damage the environment or endanger human health.
- Identify good O&M procedures you can use to avoid cleanup costs and liability concerns.
- Maintain useful records of your O&M.

Your UST system is "new" or "upgraded" — is that enough?

Being "new" or "upgraded" is not enough. New and upgraded USTs are made of a complex collection of mechanical and electronic devices that can fail under certain conditions. These failures can be prevented or quickly detected by following routine O&M procedures. Having a new or upgraded UST system is a good start, but the system must be properly operated and continuously maintained to ensure that leaks are avoided or quickly detected.

What should you do with each section of this booklet?

Read through each section carefully and use the checklists to help you establish clear O&M procedures.

By identifying and understanding the O&M tasks you need to perform routinely, you will ensure timely repair or replacement of components when problems are identified.

How can you use the following checklists effectively?

This booklet's pages are 3-hole punched and unbound so you can put all the materials in a handy 3-ring binder. You can easily remove any of the following checklists from the binder, reproduce them, and then fill them out.

You can select the specific mix of checklists that matches your UST facility. Once you have your select group of checklists together, make several copies that you can fill out periodically over time.

In this way you can keep track of your O&M activities and know that you've done what was necessary to keep your UST site safe and clean, avoiding any threats to the environment or nearby people as a result of costly and dangerous UST releases.

Use this booklet often — effective O&M requires constant vigilance.

Note: This booklet describes quality O&M practices put together by a work group of State and Federal environmental regulators. This booklet is not a federal regulation nor legally binding, but it does provide useful information on effective O&M procedures. You should check with your State UST program for information on any additional or different O&M practices that may be required in your State.

Want to help improve this O&M Manual?

We want to continually improve this O&M Manual with your help!

Send us your feedback.

Let us know if you find any errors, think something needs to be added or deleted, or have suggestions on format or checklist changes.

- Send feeback by e-mail to OUST.outreach@epa.gov
- Send feedback by regular mail to OUST Outreach O&M, Mail Code 5401G, 1200 Pennsylvania Avenue, NW, Washington, DC 20460
- Or phone your feedback to our Hotline at 1-800-424-9346.

See Section 7 for contact information.

Section 1 — Identifying The Equipment At Your UST Facility

Determine what UST equipment you have at your facility by completing the checklist below. Note that each part of the checklist below refers you to the appropriate section of this O&M booklet for relevant information. After you have identified your equipment, proceed to the following sections to identify the O&M actions necessary for your specific UST system.

General Facility Information (optional)

Facility Name _____

Facility ID #

Release Detection (See Section 2 for information on release detection)

A. Release Detection for Tanks

Check at least one for each tank:	Tank #1	Tank #2	Tank #3	Tank #4
Automatic Tank Gauging System				
Interstitial Monitoring (with secondary containment)				
Groundwater Monitoring				
Vapor Monitoring				
Inventory Control and Tank Tightness Testing (TTT)*				
Manual Tank Gauging Only **				
Manual Tank Gauging and Tank Tightness Testing (TTT)***				
Other Release Detection Method, such as SIR (please specify)				

* Allowed only for 10 years after upgrading or installing tank with corrosion protection. TTT required every 5 years.

** Allowed only for tanks of 1,000 gallon capacity or less.

*** Allowed only for tanks of 2,000 gallon capacity or less and only for 10 years after upgrading or installing tank with corrosion protection. TTT required every 5 years.

B. Release Detection for Pressurized Piping

Check at least one from A & B for each tank's piping:		Tank #1	Tank #2	Tank #3	Tank #4
A (Automatic Line Leak Detectors)	Automatic Flow Restrictor				
	Automatic Shutoff Device				
	Continuous Alarm				
B	Annual Line Tightness Test				
	Monthly Monitoring*				

* Monthly Monitoring for piping includes Interstitial Monitoring, Vapor Monitoring, Groundwater Monitoring, and other accepted methods (such as SIR and Electronic Line Leak Detectors)

C. Release Detection for Suction Piping

Check at least one for each tank's piping:	Tank #1	Tank #2	Tank #3	Tank #4
Line Tightness Testing Every Three Years				
Monthly Monitoring*				
No Release Detection Required For "Safe Suction" **				

* Monthly Monitoring for piping includes Interstitial Monitoring, Vapor Monitoring, Groundwater Monitoring, and SIR

** No release detection required only if it can be verified that you have a "safe suction" piping system with the following characteristics:

1) Only one check valve per line located directly below the dispenser;
2) Piping sloping back to the tank; and
3) System must operate under atmospheric pressure.

Spill and Overfill Protection (See Section 4 for more information)

Check for each tank:	Tank #1	Tank #2	Tank #3	Tank #4
Spill Catchment Basin/ Spill Bucket				
Check at least one overfill device for each tank:				
Automatic Shutoff Device				
Overfill Alarm				
Ball Float Valve				

Corrosion Protection (See Section 5 for more information)

A. Corrosion Protection for Tanks

Check at least one for each tank:	Tank #1	Tank #2	Tank #3	Tank #4
Coated and Cathodically Protected Steel				
Noncorrodible Material (such as Fiberglass Reinforced Plastic)				
Steel Jacketed or Clad with Noncorrodible Material				
Cathodically Protected Noncoated Steel*				
Internally Lined Tank*				
Cathodically Protected Noncoated Steel and Internally Lined Tank*				
Other Method Used to Achieve Corrosion Protection (please specify):				

*** These options may be used only for tanks installed before December 22, 1988.**

B. Corrosion Protection for Piping

Check at least one for each:	Tank #1	Tank #2	Tank #3	Tank #4
Coated and Cathodically Protected Steel				
Noncorrodible Material (such as Fiberglass Reinforced Plastic or Flexible Plastic)				
Cathodically Protected Noncoated Metal*				
Other Method Used to Achieve Corrosion Protection (please specify):				

*** This option may be used only for piping installed before December 22, 1988.**

Any problems filling out this checklist?

If you have trouble filling out this checklist or any following checklist, remember these sources of assistance you can contact:

- Your UST contractor, the vendor of your equipment, and the manufacturer of your UST equipment should be ready to help you. Look through your records for contact information. You may also want to use some of the industry contacts and other contact information provided in Section 7.

- Your State regulatory agency may be able to help you identify equipment or sources of information about your UST equipment. You should, in any event, make yourself aware of any ways in which your State may have additional or different O&M procedures than those presented in this booklet. See Section 7 for State agency contacts.